

Application No. : 10/735,260
Filed : December 11, 2003

IN THE CLAIMS

Please cancel Claims 31-49 without prejudice, amend Claims 67, 72, and 73, and add new Claims 82-100 as follows:

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1. – 56. (Canceled)

57. (Previously presented) A method of reliably transmitting data across a communication medium comprising:

10 encoding a symbol comprising a plurality of bits, wherein a most significant bit and a least significant bit of said symbol are adapted to indicate a symbol type; and

transmitting the symbol across the communication medium;

wherein said encoding increases the reliability of said transmitting data.

58. (Previously presented) The method of claim 57, wherein the symbol is encoded with said most significant bit identical to said least significant bit.

15 59. (Previously presented) The method of claim 58, wherein the symbol consists of eight bits.

60. (Previously presented) The method of claim 58, wherein the symbol type corresponds to either a first type or a second type.

20 61. (Previously presented) The method of claim 60, wherein if said most significant bit and said least significant bit both comprise a high bit, the symbol type corresponds to one of the first and second type, and if the most significant bit and the least significant bit of the symbol both comprise a low bit, the symbol type corresponds to the other of the first and second types.

62. (Previously presented) The method of claim 61, wherein said first type comprises a data symbol, and said second type comprises a non-data symbol.

25 63. (Previously presented) The method of claim 61, wherein a bit adjacent to the most significant bit of said symbol and a bit adjacent to the least significant bit of said symbol are adapted to indicate a symbol subtype.

64. (Previously presented) The method of claim 63, wherein said symbol subtype comprises one of (i) a control symbol, and (ii) an arbitration request symbol.

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65. (Previously presented) The method of claim 61, wherein at least five bits of said symbol are adapted to indicate a symbol subtype, said at least five bits not including said most significant bit and said least significant bit.

66. (Previously presented) The method of claim 58, wherein said communication medium 5 comprises a bus compliant with a high-speed serialized bus protocol.

67. (Currently amended) The method of claim 66, wherein said high-speed serialized bus protocol comprises at least one of the IEEE Std. ~~1394a and 1394b and 1394c~~ standards.

68. (Previously presented) A computerized apparatus for transmitting data across a communication medium, said apparatus comprising:

10 a first module adapted to encode a symbol comprising a plurality of bits, wherein the first module is adapted to indicate a symbol type by setting or resetting both a most significant bit and a least significant bit of said symbol; and

a second module adapted to transmit the encoded symbol across the communication medium.

15 69. (Previously presented) The apparatus of claim 68, wherein the symbol type corresponds to either a first type or a second type;

wherein if the most significant bit and the least significant bit of the symbol are both set, the symbol type corresponds to the first type, and if the most significant bit and the least significant bit of the symbol are both reset, the symbol type corresponds to the second type.

20 70. (Previously presented) The apparatus of claim 68, wherein a bit adjacent to the most significant bit of said symbol and a bit adjacent to the least significant bit of said symbol indicate a symbol subtype.

25 71. (Previously presented) The apparatus of claim 68, wherein a plurality of bits of said symbol are adapted to indicate a symbol subtype, said plurality of bits not including the most significant bit and the least significant bit of said symbol.

72. (Currently amended) The ~~method apparatus~~ of claim 71, wherein said communication medium comprises a bus compliant with a high-speed serialized bus protocol.

30 73. (Currently amended) The ~~method apparatus~~ of claim 72, wherein said high-speed serialized bus protocol comprises at least one of the IEEE Std. ~~1394a and 1394b and 1394c~~ standards.

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74. (Previously presented) A method of operating a computerized device so as to provide protection against errors, comprising:

encoding a plurality of symbols from a stream of data, wherein a first bit and a second bit associated with said encoded symbols are each independently useful for determining a symbol type; and

transmitting the symbols including the associated first and second bits across the communication medium;

wherein said first and second bits are disposed so that a single byte error occurring during said transmitting will not adversely affect both of said first and second bits.

10 75. (Previously presented) The method of Claim 74, wherein the disposition of said first and second bits comprises a most significant bit position and a least significant bit position, respectively.

76. (Previously presented) The method of Claim 75, wherein the stream of data comprises four ten-bit symbols.

15 77. (Previously presented) The method of Claim 76, wherein the plurality of symbols comprises five eight-bit symbols.

78. (Previously presented) A method of transmitting data, comprising:

creating a second plurality of symbols from a first plurality of symbols, wherein the most significant bit and the least significant bit of each symbol of the first plurality are adapted to 20 indicate a symbol type; and

transmitting the second plurality of symbols across the communication medium.

79. (Previously presented) The method of Claim 78, wherein a single byte error does not affect both said most and least significant bits, thereby preventing said single byte error from creating a type error condition.

25 80. (Previously presented) The method of Claim 78, wherein the first plurality of symbols comprises four ten-bit symbols.

81. (Previously presented) The method of Claim 78, wherein the second plurality of symbols comprises five eight-bit symbols.

30 82. (New) A method of reliably transmitting data across a communication medium comprising:

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creating a first stream of symbols such that the most significant bit and least significant bit of each symbol are adapted to indicate a symbol type;

creating a second stream of symbols from said first stream, wherein the bit length of each symbol in the second stream is equal to a bus width; and

5 transmitting said second stream of symbols across the communication medium.

83. (New) The method of Claim 82, wherein each symbol of the first stream comprises a most significant bit with a value equal to the value of its least significant bit.

84. (New) The method of Claim 83, wherein each symbol of the first stream consists of ten bits.

10 85. (New) The method of Claim 83, wherein each symbol of the second stream consists of eight bits.

86. (New) The method of Claim 83, wherein the symbol type corresponds to either a first type or a second type.

15 87. (New) The method of Claim 86, wherein a bit adjacent to the most significant bit of said symbol and a bit adjacent to the least significant bit of said symbol are adapted to indicate a symbol subtype.

88. (New) The method of Claim 87, wherein said symbol subtype comprises one of a control symbol and an arbitration request symbol.

20 89. (New) The method of Claim 86, wherein at least five bits of said symbol are adapted to indicate a symbol subtype, said at least five bits not including said most significant bit and said least significant bit.

90. (New) The method of Claim 83, wherein said communication medium comprises a bus compliant with a high-speed serialized bus protocol.

25 91. (New) The method of Claim 90, wherein said high-speed serialized bus protocol comprises at least one of the IEEE Std. 1394b and 1394c standards.

92. (New) A computer readable apparatus having a storage medium, said storage medium comprising a computer program having a plurality of instructions which, when executed by a computer:

30 create a symbol, wherein the most significant bit and the least significant bit of the symbol are each adapted to indicate a symbol type;

create a set of bytes comprising each bit from said symbol, and

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transmit the set of bytes over a transmission medium.

93. (New) The computer readable apparatus of Claim 92, wherein the symbol consists of ten bits.

94. (New) The computer readable apparatus of Claim 92, wherein the symbol type 5 corresponds to either a first type or a second type;

wherein if the most significant bit and the least significant bit of the symbol are both set, the symbol type corresponds to the first type, and if the most significant bit and the least significant bit of the symbol are both reset, the symbol type corresponds to the second type.

95. (New) The computer readable apparatus of Claim 92, wherein a bit adjacent to the 10 most significant bit of said symbol and a bit adjacent to the least significant bit of said symbol indicate a symbol subtype.

96. (New) The computer readable apparatus of Claim 92, wherein a plurality of bits of said symbol are adapted to indicate a symbol subtype, said plurality of bits not including the most significant bit and the least significant bit of said symbol.

97. (New) The computer readable apparatus of Claim 96, wherein said symbol subtype 15 comprises one of a control subtype and an arbitration request subtype.

98. (New) The computer readable apparatus of Claim 92, wherein said transmission medium comprises a bus compliant with a high-speed serialized bus protocol.

99. (New) The computer readable apparatus of Claim 98, wherein said high-speed 20 serialized bus protocol comprises at least one of the IEEE Std. 1394b and 1394c standards.

100. (New) The computer readable apparatus of Claim 92, wherein the set of bytes are created such that single byte error during transmission would not affect the value of the bits corresponding to the most and least significant bits of said symbol, thereby preventing a type error condition.